Bourns® Sparctube® Switching Spark Gap Series is a range of switching spark gaps designed specifically for voltage controlled switching of capacitive discharge circuits where a high energy, low loss, fast rate of switching is required. This series is ideally suited for applications where a capacitive discharge is utilized with a transformer to obtain pulses of very high voltage levels in the order of several thousand volts.

### Characteristics

#### Initial Values:
- Static Breakdown Voltage @ 800 V/s
  - First Ignition Values: ≤ 750 V
  - Following Ignition Values: 600 V ±12%

#### Electrical Life:
- Minimum Number of Switchings: 2x10⁵
- Peak Current (Approx.): 750 A
- Maximum Switching Frequency: 200 Hz
- Breakdown Characteristics @ 750 V Limit
  - First Ignition Values: ≤ 750 V
  - Delay Time: < 90 ms
  - Following Ignition Values: 600 V ±15%

#### General Data:
- Breakdown Time: < 50 ns
- Insulation Resistance @100 Vdc: > 100 megohms
- Share of Early Ignition Values (< 527 V): < 1%
- Capacitance: < 1 pF
- Operating Temperature Range: -40 °C to +160 °C
- Storage Temperature Range: -65 °C to +125 °C
- Weight (Approx.): 2.3 g
- Testing: 100%
- Robustness of Terminations: IEC 60068-2-21

#### Notes:
1. At delivery AQL 0.65 Level II, DIN ISO 2859.
2. Distribution of switchings: maximum 20% above +125 °C and 20% below +20°C.
3. Test Ua1 (tensile), Ua2 (thrust), Ub (bending) and Uc (torsion).

### Applications
- Igniters for Xenon discharge lamps
- Electronic igniters for gas heating and gas domestic appliances, e.g., cookers
- Ignition of ultra-high pressure gas discharge lamps for data and video projectors

### Basic Application Circuit

![Basic Application Circuit Diagram]
Sparctube® Switching Spark Gap ST-0600 Series

Product Dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>ST-0600-BLx</th>
<th>ST-0600-BCx</th>
<th>ST-0600-BBx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceramic Insulator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal Electrode</td>
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<td></td>
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<tr>
<td>Tinued Leads</td>
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<tr>
<td>DIA.</td>
<td>1.0 (0.039)</td>
<td>8.0 ±0.1/-0.3</td>
<td>8.0 ±0.1/-0.3</td>
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<tr>
<td></td>
<td></td>
<td>(315 x 004)/-0.012</td>
<td>(315 x 004)/-0.012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(228 ± 0.012)</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>(228 ± 0.012)</td>
<td>(228 ± 0.012)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.8 ± 0.3</td>
<td>5.8 ± 0.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(228 ± 0.012)</td>
<td>(228 ± 0.012)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60.0 - 82.0</td>
<td>60.0 - 82.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2.362 - 3.228)</td>
<td>(2.362 - 3.228)</td>
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</table>

How to Order

ST - 0600 - B x x - STD

<table>
<thead>
<tr>
<th>Series Designator</th>
<th>ST-0600-B x x-STD</th>
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<tbody>
<tr>
<td>Switching Voltage</td>
<td>600 V</td>
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<tr>
<td>Tolerance</td>
<td>12 %</td>
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<tr>
<td>Lead Shape</td>
<td>B = Bent Leads</td>
</tr>
<tr>
<td></td>
<td>C = No Leads*</td>
</tr>
<tr>
<td></td>
<td>L = Straight Leads</td>
</tr>
<tr>
<td>Packaging</td>
<td>B = Bulk</td>
</tr>
<tr>
<td></td>
<td>T = Tape &amp; Reel*</td>
</tr>
<tr>
<td>Standard or Modified Product Indicator</td>
<td>STD = Standard</td>
</tr>
</tbody>
</table>

Leadless version available in bulk packaging only.

Typical Part Marking

ST 0600 wwy ...... “wwy” = Week and year of production

Recommended Pad Layout

Dimensions: MM (INCHES)

Test Circuit

Uo........750 V
R........See Note
C........470 nF
L........0.5 μH
DUT ......Device Under Test
Us .........Breakdown Voltages

NOTE: Uo and R are set to provide suitable conditions for different measurements.

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Users should verify actual device performance in their specific applications.
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OBSOLETE
Sparctube® Switching Spark Gap ST-0600 Series

Packaging Specifications

Models ST-0600-BBB, ST-0600-BLB and ST-0600-BCB* ship standard bulk pack, 1,000 pcs./bag. The optional tape and reel packaging contains 1,000 pcs./reel for Model ST-0600-BLT; 500 pcs./reel for Model ST-0600-BBT.

* Available in bulk packaging only.

ST-0600-BLT

ST-0600-BBT

DIMENSIONS: MM (INCHES)

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